

Application. No. 10/067,426

REMARKS

This is in response to the Office Action of 17 June 2004. Claims 1-10 are pending in the application; and Claims 1-10 have been rejected.

By this amendment, Claims 1, 2, 4 and 7-8 have been amended; Claim 10 has been cancelled; and new Claims 11-14 have been added.

No new matter has been added.

In view of the amendments above and remarks below, Applicants respectfully request reconsideration and further examination.

About The Invention

The present invention relates generally to electronic circuits, and more particularly relates to a transponder, which may be used for example as an electronic tag, the transponder including a battery-powered microcontroller, an active transceiver, a passive receiver, and a switching means controlled by the microcontroller such that operation of the active transceiver may be inhibited or permitted. The passive receiver is operable to receive a signal that indicates to the microcontroller whether the active transceiver is to be enabled to operate or disabled from operation. In transponders, in accordance with the present invention, the microcontroller receives power regardless of whether the passive receiver receives any signal. Similarly, the active transceiver is either operational or inhibited as determined by the microcontroller, and not as a direct consequence of power derived from the passive receiver. In embodiments of the present invention, certain functions of an electronic tag can be energized even when spurious radiation from the tag is not permitted, but the transceiver section can be re-activated by way of a signal transmitted to a passive receiver that is coupled to the microcontroller.

Rejections under 35 USC §102(b)

Claims 1 and 7 have been rejected under 35 USC §102(b) as being anticipated by Rotzoll (US Patent 5,790,946). Claims 1-10 have been rejected under 35 USC §102(b) as being anticipated by Katayama (US Patent 5,113,184). Claims 1, 2, 4-8,

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and 10 have been rejected under 35 USC §102(b) as being anticipated by Urbas, et al., (US Patent 5,532,686).

Independent Claims 1 and 7 have been amended to make clear that the transceiver is an active transceiver, that the radio signal receiving means is a passive radio receiver, and that the controller receives current from the electric current source without regard to whether the passive signal receiving means is in range.

Rotzoll discloses an RFID tag that includes two battery powered receivers, i.e., low-power receiver 20 and master receiver 25. Rotzoll states that RFID tag 12 is battery powered, and shows and describes the low power receiver producing a baseband signal by down-converting the "wake-up" signal through the use of mixers which obviously require the input of local oscillators which must be powered. Additionally, Rotzoll's master receiver 25 enters a sleep mode based on a timer internal to the RFID tag. Applicants' claimed invention requires a passive receiver not the battery powered wake up receiver of Rotzoll. Applicants' claimed invention requires an active transceiver, not the active receiver of Rotzoll. Applicants' claimed invention requires a signal received by the passive radio receiver to disable the active transceiver, not the internal timer disclosed by Rotzoll.

Katayama discloses a passive transponder that receives its operational power from an external radio transmitter. In Applicants' claimed invention the controller is powered regardless of energy being received from an external radio transmitter. Applicants note that "switching circuit 10" of Katayama is not the same element as the claimed switching means. The switching circuit 10 of Katayama is essentially the modulating circuit of a transmitter and determines the output frequency of the transmitter (see Katayama col. 3, lines 48-58; and col. 4, lines 4-7). Applicants' claimed switching means enables or disables the active transceiver.

Urbas, et al., disclose a passive transponder that receives its operational power from an external radio transmitter. The transponder defined by Applicants' Claims includes an active transceiver, the operation of which, is enabled and disabled by a controller. The controller, and elements such as the transducers, of Applicant's claimed

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transponder remain powered even while the transceiver is disabled, and without regard to whether the passive radio signal receiving means is within range of an external electromagnetic field to supply power. This would not be possible in a transponder as disclosed by Urbas, et al., since the Urbas, et al., transponder is powered from an external electromagnetic field.

For at least the reasons set forth above, Applicants respectfully submit that the rejections under 35 USC §102(b) have been overcome. Further, Applicants respectfully submit, that the disclosure of the cited references do not suggest, or provide motivation for Applicants' claimed invention.

Rejections under 35 USC §103(a)

Claims 3 and 9 have been rejected under 35 USC §103(a) as being unpatentable over Urbas, et al., (US Patent 5,532,686) in view of Denne, et al., (US Patent 4,114,151).

Claims 3 and 9 indirectly depend, respectively, from amended independent Claims 1 and 7. The difference between Urbas, et al., and the amended independent Claims is discussed above in connection the rejections under 35 USC §102(b). Applicants respectfully submit that the limitations recited in the amended Claims are not disclosed, suggested, or motivated by the combination of Urbas, et al., and Denne, et al.

In view of the foregoing, Applicants respectfully submit that the rejections under 35 USC §103(a) has been overcome.

New Claims 11-14

New Claims 11-14 are directed to a transponder including a battery; a microcontroller connected to the battery; a passive receiver coupled to the microcontroller; an active transceiver; and a switching circuit coupled to the microcontroller to receive at least one control signal from the microcontroller, and further coupled to the active transceiver to enable and disable operation of the active

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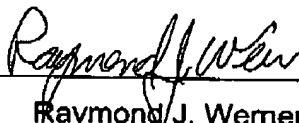
transceiver; wherein the active transceiver, once enabled, receives power from the battery. The references do not appear to disclose, suggest, or provide motivation for combining a passive receiver and an active transceiver, each coupled to a microcontroller, such that the active transmitter is enabled by the microcontroller, and disabled by the microcontroller such that the microcontroller and ancillary circuitry remain powered and operational even while the active transceiver is disabled. Support for these Claims can be found at pages 2-6, and in the Figure.

Conclusion

All of the rejections in the outstanding Office Action of 17 June 2004 have been responded to, and Applicants respectfully submit that the pending Claims 1-9 and 11-14 are now in condition for allowance.

Applicants respectfully request that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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